

What is claimed is:

1 1. A zoom lens formed of only two lens groups, arranged along an optical axis in order from the  
2 object side as follows:

3 a first lens group having negative refractive power; and

4 a second lens group having positive refractive power;

5 wherein

6 the first and second lens groups are moved along the optical axis during zooming,

7 and the following conditions are satisfied:

8 
$$-3.4 < f_1 / f_w < -3.0$$

9 
$$-1.6 < MT < -1.4$$

10 
$$60 < v(G2+)$$

11 where

12  $f_1$  is the focal length of the first lens group,

13  $f_w$  is the focal length of the two-group zoom lens at the wide-angle end,

14  $MT$  is the lateral magnification of the second lens group at the telephoto end of the zoom  
15 range of the two-group zoom lens, and

16  $v(G2+)$  is the average of the Abbe numbers of the materials of the lens elements having  
17 positive refractive power of the second lens group.

1 2. The zoom lens of claim 1, wherein at least one lens surface of at least one lens element of the  
2 second lens group is aspheric.

1 3. The zoom lens of claim 1, wherein:

2 the first lens group includes, arranged along the optical axis in order from the object  
3 side, a first lens element of negative refractive power and a meniscus shape with its convex  
4 surface on the object side, a second lens element having a meniscus shape, a third lens element

5 having a biconcave shape, and a fourth lens element of positive refractive power; and  
6 the second lens group includes, arranged along the optical axis in order from the object  
7 side, a first lens component of positive refractive power, a lens element of negative refractive  
8 power that is intimately bonded to a lens element of positive refractive power so as to form a  
9 second lens component, and a third lens component of negative refractive power and a meniscus  
10 shape with its convex surface on the object side.

1 4. The zoom lens of claim 3, wherein the first lens group consists of four lens elements.

1 5. The zoom lens of claim 4, wherein the second lens group consists of three lens components.

1 6. The zoom lens of claim 5, wherein each of the first lens component of the second lens group  
2 and the third lens component of the second lens group consists of a single lens element, and the  
3 second lens component of the second lens group consists of the two intimately bonded lens  
4 elements of positive and negative refractive power.

1 7. The zoom lens of claim 3, wherein the second lens group consists of three lens components.

1 8. The zoom lens of claim 7, wherein each of the first lens component of the second lens group  
2 and the third lens component of the second lens group consists of a lens element, and the second  
3 lens component of the second lens group consists of the two intimately bonded lens elements of  
4 positive and negative refractive power.

1 9. The zoom lens of claim 2, wherein:

2 the first lens group includes, arranged along the optical axis in order from the object  
3 side, a first lens element of negative refractive power and a meniscus shape with its convex  
4 surface on the object side, a second lens element having a meniscus shape, a third lens element

5 having a biconcave shape, and a fourth lens element of positive refractive power; and  
6 the second lens group includes, arranged along the optical axis in order from the object  
7 side, a first lens component of positive refractive power, a lens element of negative refractive  
8 power that is intimately bonded to a lens element of positive refractive power so as to form a  
9 second lens component, and a third lens component of negative refractive power and a meniscus  
10 shape with its convex surface on the object side.

1 10. The zoom lens of claim 9, wherein the first lens group consists of four lens elements.

1 11. The zoom lens of claim 10, wherein the second lens group consists of three lens  
2 components.

1 12. The zoom lens of claim 11, wherein each of the first lens component of the second lens  
2 group and the third lens component of the second lens group consists of a lens element, and the  
3 second lens component of the second lens group consists of the two intimately bonded lens  
4 elements of positive and negative refractive power.

1 13. The zoom lens of claim 9, wherein the second lens group consists of three lens components.

1 14. The zoom lens of claim 13, wherein each of the first lens component of the second lens  
2 group and the third lens component of the second lens group consists of a lens element, and the  
3 second lens component of the second lens group consists of the two intimately bonded lens  
4 elements of positive and negative refractive power.

1 15. The zoom lens of claim 1, wherein:

2 the first lens group includes, arranged along the optical axis in order from the object  
3 side, a first lens component of negative refractive power and a meniscus shape with its convex

4 surface on the object side, a second lens component having a meniscus shape, a third lens  
5 component having a biconcave shape, and a fourth lens component of positive refractive power;  
6 and

7 the second lens group includes, arranged along the optical axis in order from the object  
8 side, a first lens component of positive refractive power, a lens element of negative refractive  
9 power that is intimately bonded to a lens element of positive refractive power so as to form a  
10 second lens component, and a third lens component of negative refractive power and a meniscus  
11 shape with its convex surface on the object side.

1 16. The zoom lens of claim 15, wherein the first lens group consists of four lens components.

1 17. The zoom lens of claim 16, wherein the second lens group consists of three lens  
2 components.

1 18. The zoom lens of claim 17, wherein each of the first lens component of the second lens  
2 group and the third lens component of the second lens group consists of a single lens element,  
3 and the second lens component of the second lens group consists of the two intimately bonded  
4 lens elements of positive and negative refractive power.

1 19. The zoom lens of claim 15, wherein the first lens group consists of four lens elements.

1 20. The zoom lens of claim 19, wherein the second lens group consists of three lens  
2 components.